Amendments to the Drawings:

The attached two sheets of replacement drawings include changes to Figs. 2 and 3. The first sheet, which includes Fig. 1-2, replaces the original sheet including Fig. 1-2. The second sheet, which includes Fig. 3, replaces the original sheet including Fig. 3. The figures have been amended to replace a foreign language with an English translation.

Attachment: Replacement Sheets Showing Changes.

ARGUMENTS/REMARKS

Applicants would like to thank the examiner for the careful consideration given the present application. This amendment is filed at the request of the Examiner in a telephone conversation on June 14, 2006, and is to replace Amendment A filed on May 30, 2006, and the amendments herein supersede and replace the amendments filed in that paper.

In the specification, various paragraphs have been amended to correct minor editorial and translation errors. The Abstract has also been amended to correct similar errors.

Claims 1-8 have been canceled. New claims 9-21 are added without adding any new matter.

The examiner objects to the drawings for containing a foreign language. The proposed drawing amendments have been submitted as requested by the Examiner, making the objection moot.

The examiner objected to the specification for various errors. The specification has been amended, making the objections moot.

Claims 1-8 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for being generally narrative and grammatically incorrect. These claims have been amended and replaced with claims in a proper format, and thus the rejection is moot.

Claims 1, 2, and 4 were rejected under 35 U.S.C. §102(e) as being anticipated by Dolazza *et al.* (U.S. 6,678,350). For the following reasons, the rejection is respectfully traversed.

First, claims 1, 2, and 4 have been canceled. Thus, the rejection is moot.

Furthermore, the new claims recited various features that are not found in the cited reference.

The invention, according to new claim 9, relates to an irradiation with radiating an object using a broadband energy spectrum (see lines 5-6), in which the measurements are split into a number of bands according to the energies of the photons or other particles incoming onto the detectors after having passed through the studied object (see lines 7-10), and a measurement (e.g., number of photons) is obtained for each band channel (id.). Thicknesses of two materials making up the object can be obtained from a *plurality* of pairs of the measurements after preliminary calibrations on known objects, often called "phantoms" in the art (e.g., see lines 11-31).

In contrast, Dolazza discloses a process in which two images of the object I_1, and I_2 are obtained with only *two* signals S_1 and S_2 at different energies in the irradiation spectrum, then a final image I is obtained with a scaling factor x such that I is proportional to $I_1xk + I_2k$ (see col. 7, lines 1-6).

The scaling factor x is chosen to be equal to α_2/α_1, in which α_1 and α_2 are the numbers of charge carriers generated in the respective detectors for each incoming photon ($S_1 = \alpha_1 N_1$ and $S_2 = \alpha_2 N_2$). Furthermore, the noises produced in the detector signals are, respectively, $\sigma_1=\alpha_1\sqrt{N_1}$ and $\sigma_2=\alpha_2\sqrt{N_2}$ (see col.6,

at its end). The reference suggests that this particular value of the factor x allows one to obtain a final image having a noise equal to the noise obtained in a monochromatic irradiation process, whereas conventional bichromatic irradiations provide a higher noise (see col. 7, lines 21-27).

Accordingly, Dolazza discloses only a two-stage process in which a *single pair* of first images I_1 and I_2 are associated with only *two* measurements S_1 and S_2 which are linearly combined to obtain the first image I.

In contrast, the invention according to claim 9 recites a *three-stage* process in which a *plurality* of measurements are associated by pairs to obtain a *plurality* of intermediate parameters, $\hat{M}$, where the intermediate parameters $\hat{M}$ are combined together (e.g., to obtain a final value final $\hat{M}$).

Accordingly, while Dolazza may suggest applying a particular scaling factor (or weighting coefficient) in a linear combination of two images I_1 and I_2 that are different (i.e., taken at different energies) in order to eliminate an amplification discrepancy between two detectors, the invention, in contrast, teaches to compute a *plurality* of unknown weighting coefficients in a combination of a number of intermediate images that are similar, but for the noise. Stated otherwise, Dolazza performs a correction that is constant in each process because it depends on respective amplifications of the detectors, whereas the invention performs a suitable averaging of results with weighting coefficients that will be different in every process.

Consequently, Dolazza does not anticipate new claim 9 because it fails to mention all the claimed steps in a *three-stage* process and it does not teach

using a *plurality of pairs* of such measurements, and thus claim 9 is patentable over the reference. Claims 10-20, which depend, directly or indirectly, upon claim 9, are thus patentable over the reference for at least the same reasons as claim 9. Claim 21 has limitations similar to those discussed for claim 9, and thus is patentable over the reference for at least the same reasons as claim 9.

In consideration of the foregoing analysis, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 16-0820, our Order No. 35837.

Respectfully submitted,
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Dated: June 14, 2006

By: _____
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